

REMARKS

Claims 1, 2, 4, 6-11, 13-15, and 33-54 are pending in this application. Claims 1 and 33-36 are independent claims. Claims 1, 7, 11, 33-38, 41, 42, 46, 47, 51, and 52 are amended. Claims 3, 5, 12, and 16-32 are cancelled.

Claim Rejections – 35 U.S.C. § 101

Claims 1, 2, 4 and 6-15 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Applicants respectfully traverse.

In response to the Applicant's arguments of March 1, 2008, the Examiner states, on page 2 of the March 21, 2008 Final Office Action:

Contrary to a computer-executable program that causes the computer to perform a sequence of positive steps, which is not intended use, the medium recited by claim 1 storing a data structure, which comprises a data area storing a transport stream and a navigation area storing a playlist and at least one clip information file. However, the "transport stream" does not cause the computer to perform any positive step or a specific task. Also, the play items in the playlist that indicate "at least one of the still picture units to reproduce" and provides duration information for display" and the clip information file, which are designed to be used by the computer in some manner is an intended use, not a step or sequence of steps that, when executed, causes a computer to perform a specific useful tasks. Thus, they are non-statutory for that reason.

The Examiner appears to be under the mistaken impression that only computer programs recorded on a computer readable medium constitute statutory subject matter. The Examiner also appears to misunderstand that data structures may be patentable. This is simply incorrect. MPEP § 2106.01 states the following.

In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

(emphasis added)

Data structures recorded on a computer readable medium, therefore, may constitute statutory subject matter.

MPEP § 2106.01 goes on further to state:

Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, [In re Warmerdam,] 33 F.3d at 1360, 31 USPQ2d at 1759. **When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.** Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

In view of the above, a more detailed discussion of In re Warmerdam and In re Lowry is warranted.

Discussion of In re Warmerdam

Claim 1 of In re Warmerdam recited:

1. A method for generating a data structure which represents the shape of [sic] physical object in a position and/or motion control machine as a hierarchy of bubbles, comprising the steps of:

first locating the medial axis of the object and

then creating a hierarchy of bubbles on the medial axis.

Claim 6 of In re Warmerdam recited:

A data structure generated by the method of any of Claims 1 through 4.

With respect to claim 1, the court found both steps drawn strictly to mathematical equations, and therefore non-statutory abstract ideas. In re Warmerdam, at 1759. The court went on to find that the data structure of claim 6 suffers from the same defect.

Discussion of In re Lowry

Claim 1 of In re Lowry recited:

1. A memory for storing data for access by an application program being executed on a data processing system, comprising:

a data structure stored in said memory, said data structure including information resident in a database used by said application program and including:

a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from said database;

a single holder attribute data object for each of said attribute data objects, each of said holder attribute data objects being one of said plurality of attribute data objects, a being-held relationship existing between each attribute data object and its holder attribute data object, and each of said attribute data objects having a being-held relationship with only a single other attribute data object, thereby establishing a hierarchy of said plurality of attribute data objects;

a referent attribute data object for at least one of said attribute data objects, said referent attribute data object being nonhierarchically related to a holder attribute data object for the same at least one of said attribute data objects and also being one of said plurality of attribute data objects, attribute data objects for which there exist only holder attribute data objects being called element data objects, and attribute data objects for which there also exist referent attribute data objects being called relation data objects; and

an apex data object stored in said memory and having no being-held relationship with any of said attribute data objects, however, at least one of said attribute data objects having a being-held relationship with said apex data object.

In finding that the printed matter cases have no factual relevance to the claims at issue in In re Lowry, the court stated:

Nor are the data structures analogous to printed matter. Lowry's ADOs do not represent merely underlying data in a database.

ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. **Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory.**

In re Lowry, at 1034.

The court further noted:

Indeed, Lowry does not seek to patent the Attributive data model in the abstract. Nor does he seek to patent the content of information resident in a database. Rather, Lowry's data structures impose a physical organization on the data.

In re Lowry, at 1034.

And, on the issue of abstract ideas, the Federal Circuit in In re Lowry noted:

More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased. Lowry further notes that, unlike prior art data structures, Lowry's data structures simultaneously represent complex data accurately and enable powerful nested operations. In short, Lowry's data structures are physical entities that provide increased efficiency in computer operation.

In re Lowry, at 1035.

The claims at issue (e.g., claim 1) are analogous to the claims in In re Lowry, and as such are clearly statutory subject matter. Unlike the claims of In re Warmerdam, the claims of the subject application do not recite mathematical equations, or the generation of data structures using mathematical equations. Instead, as in In re Lowry, claim 1 recites a computer readable medium storing a specific data structure that dictates how application programs reproduce data. Accordingly, because the computer readable medium recited in claim 1 includes a data structure having a data area and a management area, which provides management data for managing reproduction of data in the data area of the computer readable medium, claim 1 is clearly directed towards patentable, statutory subject matter.

In the language of MPEP §2106.01 regarding **functional** descriptive material, claim 1 is directed to “a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory.” In light of the above, Applicants respectfully request that the rejection of independent claim 1, and claims depending therefrom, under 35 U.S.C. § 101 be withdrawn.¹

Claim Rejections – 35 U.S.C. § 103

Claims 1, 2, 4, 8-15, 33, 34, 38-40 and 42-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,122,436 (Okada), US 6,580,870 (Kanazawa) and US 2002/0145702 (Kato). Applicants respectfully traverse this rejection.

The Examiner admits, on page 5 of the Office Action, that neither Okada nor Kanazawa disclose a playlist providing duration information for display of the still picture in the still picture unit. Instead, the Examiner relies on Kato to disclose this feature.

Kato, in paragraphs [0267] and [0272] and FIG. 32 (reproduced below), describes the information contained in Kato’s PlayItem. In particular, paragraph [0267], in its entirety states:

The PlayItem is hereinafter explained. One PlayItem() basically contains the following data: Clip_Information_file_name for specifying the filename of the Clip, IN-time and OUT-time, paired together to specify the playback domain of Clip, STC_sequence_id referenced by IN-time and OUT-time in case the CPI_type defined in PlayList() is EP_map type, and Connection_Condition indicating the connection condition of previous PlayItem and current PlayItem.

Similarly, paragraph [0272] discloses the PlayItem syntax as shown in FIG. 32. In its entirety, paragraph [0272] discloses:

The PlayItem syntax is as shown in FIG. 32. As to the syntax of the PlayItem, the field of the Clip_information_file_name indicates the filename of the Clip Information. The Clip_stream_type defined by the ClipInfo() of this Clip Information file must indicate the Clip AV stream.

¹ The Examiner may also find it helpful to review AT&T Corp. v. Excel Communications Inc., 50 USPQ2d 1447 (Fed. Cir. 1999).

SYNTAX	NUMBER OF BYTES	ABBREVIATION
PlayItem(){		
Clip_information_file_name	8*10	bslbf
reserved	24	bslbf
STC_sequence_id	8	uimsbf
IN_time	32	uimsbf
OUT_time	32	uimsbf
reserved	14	bslbf
connection_condition	2	bslbf
if (<Virtual PlayList>){		
if (connection_condition=='I0'){		
BridgeSequenceInfo()		
}		
}		
}		

FIG. 32 from Kato's specification.

Kato's In_time is a 32-bit field used to store the playback start time of Playitem (see paragraph [0274]). Out_time is a 32-bit field and is used to store the playback end time of Playitem (see paragraph [0275]). With regard to duration information, Kato's Playitem only discloses and In-time and an Out_time data. Kato's Playitem does not provide information indicating whether the duration information is "infinite" or "finite." Accordingly, Kato does not disclose a playitem "providing first and second duration information for display of the still picture in the still picture unit... wherein the first duration information indicates whether to display the still picture for one of a finite and an infinite period of time; and the second duration information indicates a length of time to display the still picture when the first duration information indicates to display the still picture for a finite period of time," as recited in claim 1. Further, the Applicants submit the above features are not obvious in light of Kato's disclosure alone.

Because none of the cited references disclose a playitem "providing first and second duration information for display of the still picture in the still picture unit... wherein the first duration information indicates whether to display the still picture for one of a finite and an infinite period of time; and the second duration information indicates a length of time to display the still picture when the first duration information indicates to display the still picture for a finite

period of time,” as recited in claim 1, then the Applicants submit the combination of the cited references cannot render the above features obvious.

For at least the above reasons, the Applicants respectfully request the rejection of claim 1, and all claims which depend thereon, under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okada, Kanazawa, and Kato be withdrawn.

For similar reasons, the Applicants respectfully request the rejection of claims 33 and 34, and all claims which depend thereon, under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okada, Kanazawa, and Kato be withdrawn.

Claims 6, 7, 37 and 41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Okada, Kanazawa, Kato and further in view of US 6,353,702 (Ando). Applicants respectfully traverse this rejection.

As argued above, the Applicants submit claims 1, 33, and 34 are patentable over the Okada, Kanazawa, and Kato because none of the references, either individually or in combination disclose a playitem “providing first and second duration information for display of the still picture in the still picture unit... wherein the first duration information indicates whether to display the still picture for one of a finite and an infinite period of time; and the second duration information indicates a length of time to display the still picture when the first duration information indicates to display the still picture for a finite period of time,” as recited in claims 1, 33, and 34. Further, the Applicants submit that Ando does not cure this deficiency.

The Examiner asserts, on page 9 of the Office Action, that Ando discloses “the duration information indicates whether to display the play item for one of a fine and an infinite period of time,” and cites to column 18, line 64 to column 19, line 3 for support. In its entirety, this portion of Ando’s specification discloses:

In case of a VOB which includes A_PCK (audio pack), as shown in FIGS. 10A to 10C or FIGS. 10D to 10F, display time 1807 of one still picture means the playback time of audio information in a VOB. On the other hand, in case of a VOB which includes no A_PCK (audio pack), as shown in FIGS. 10G to 10I, **display time 1807 means the still display period of a still image.**

The Applicants submit this portion of Ando does not render obvious a playitem “providing first and second duration information for display of the still picture in the still picture

unit... wherein the first duration information indicates whether to display the still picture for one of a finite and an infinite period of time; and the second duration information indicates a length of time to display the still picture when the first duration information indicates to display the still picture for a finite period of time,” as recited in claim 1. Instead, Ando discloses a data structure which merely provides information regarding display time only, not information on whether the time duration is finite or infinite. Ando, therefore, does not render obvious the above features.

Accordingly, the Applicants submit that claims 6, 7, 37 and 41 are nonobvious over the combination of Okada, Kanazawa, Kato, and Ando because the claims, from which they depend, are nonobvious over the cited art.

For at least the reason stated above, the Applicants respectfully request the rejection of claims 6, 7, 37, and 41 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okada, Kanazawa, Kato, and Ando be withdrawn.

Claims 35-36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Okada, Kanazawa, Kato and further in view of US 2004/0141436 (Monaghan). Applicants respectfully traverse this rejection.

Similar to the above arguments, the Applicants submit that claims 35 and 36 are patentable over the Okada, Kanazawa, and Kato because none of the references, either individually or in combination disclose a playitem “providing first and second duration information for display of the still picture in the still picture unit... wherein the first duration information indicates whether to display the still picture for one of a finite and an infinite period of time; and the second duration information indicates a length of time to display the still picture when the first duration information indicates to display the still picture for a finite period of time,” as recited in claims 35 and 36. Further, the Applicants cannot find the above features in Monaghan. Therefore, the Applicants submit Monaghan does not cure the above deficiency. Accordingly, the Applicants submit that claims 35 and 36 are nonobvious over the combination of Okada, Kanazawa, Kato, and Monaghan because the claims, from which they depend, are nonobvious over the cited art.

For at least the reason stated above, the Applicants respectfully request the rejection of claims 35 and 36, and all claims which depend thereon, under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okada, Kanazawa, Kato, and Monaghan be withdrawn.

Claims 45-54 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Okada, Kanazawa, Kato, and Monaghan and further in view of US 6,353,702 (Ando). Applicants respectfully traverse this rejection.

Similar to the above arguments, the Applicants submit that claims 45-54 are patentable over the Okada, Kanazawa, Kato, and Monaghan because none of the references, either individually or in combination, disclose a playitem “providing first and second duration information for display of the still picture in the still picture unit... wherein the first duration information indicates whether to display the still picture for one of a finite and an infinite period of time; and the second duration information indicates a length of time to display the still picture when the first duration information indicates to display the still picture for a finite period of time,” as recited in claims the base claims 35 and 36. Further, the Applicants cannot find the above features disclosed in Ando and submit that Ando does not cure this deficiency. Accordingly, the Applicants submit that claims 45 - 54 are nonobvious over the combination of Okada, Kanazawa, Kato, Monaghan, and Ando because the claims, from which they depend, are nonobvious over the cited art.

For at least the reason stated above, the Applicants respectfully request the rejection of claims 45-54 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okada, Kanazawa, Kato, Monaghan, and Ando be withdrawn.

CONCLUSION

In view of the above remarks and amendments, Applicants respectfully submit that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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